



**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

**FILED**

07-26-07  
08:41 AM

Order Instituting Rulemaking to  
Promote Policy and Program  
Coordination and Integration in Electric  
Utility Resource Planning.

Rulemaking 04-04-003

Order Instituting Rulemaking to  
Promote Consistency in Methodology  
and Input Assumptions in Commission  
Applications of Short-run and Long-run  
Avoided Costs, Including Pricing for  
Qualifying Facilities.

Rulemaking 04-04-025

**NOTICE OF EX PARTE COMMUNICATION**

Michael Alcantar  
Rod Aoki  
Alcantar & Kahl LLP  
1300 SW Fifth Avenue  
Suite 1750  
Portland, OR 97201  
503.402.9900 office  
503.402.8882 fax  
[mpa@a-klaw.com](mailto:mpa@a-klaw.com)  
[rsa@a-klaw.com](mailto:rsa@a-klaw.com)

Evelyn Kahl  
Nora Sheriff  
Alcantar & Kahl LLP  
120 Montgomery Street  
Suite 2200  
San Francisco, CA 94104  
415.421.4143 office  
415.989.1263 fax  
[ek@a-klaw.com](mailto:ek@a-klaw.com)  
[nes@a-klaw.com](mailto:nes@a-klaw.com)

Counsel to the Cogeneration  
Association of California

Counsel to the Energy Producers and  
Users Coalition

July 26, 2007

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Promote Policy and Program Coordination and Integration in Electric Utility Resource Planning.	Rulemaking 04-04-003
Order Instituting Rulemaking to Promote Consistency in Methodology and Input Assumptions in Commission Applications of Short-run and Long-run Avoided Costs, Including Pricing for Qualifying Facilities.	Rulemaking 04-04-025

**NOTICE OF EX PARTE COMMUNICATION**

Pursuant to Rule 8 of the Rules of Practice and Procedure of the California Public Utilities Commission (Commission), the Cogeneration Association of California<sup>1</sup> and the Energy Producers and Users Coalition<sup>2</sup> (jointly CAC/EPUC), submit this notice. This notice describes the following Ex Parte communication in the above-referenced consolidated proceedings.

On July 23, 2007, Michael Alcantar and Nora Sheriff, counsel to CAC/EPUC, Donald Schoenbeck of RCS Inc., consultant to CAC/EPUC, Neil Burgess, Executive

---

<sup>1</sup> CAC represents the power generation, power marketing and cogeneration operation interests of the following entities: Coalinga Cogeneration Company, Mid-Set Cogeneration Company, Kern River Cogeneration Company, Sycamore Cogeneration Company, Sargent Canyon Cogeneration Company, Salinas River Cogeneration Company, Midway Sunset Cogeneration Company and Watson Cogeneration Company.

<sup>2</sup> EPUC is an ad hoc group representing the electric end use and customer generation interests of the following companies: BP America Inc. (including Atlantic Richfield Company), Chevron U.S.A. Inc., ConocoPhillips Company, Shell Oil Products US, THUMS Long Beach Company, Occidental Elk Hills, Inc., and Valero Refining Company - California.

Director of Sycamore Cogeneration Company, and Gaylord Edwards, Business Manager, Chevron Global Power Company met with Jaclyn Marks, advisor to Commissioner Simon, from approximately 11:00 to 11:30 AM. They then met with Andrew Campbell, advisor to Commissioner Chong, from approximately 3:00 to 4:20 PM. Both meetings were held at the Commission's office in San Francisco and were initiated by counsel for CAC/EPUC. Mr. Alcantar referred to the attached documents regarding the proposed decision; these were the only written materials used during the meetings.

Counsel and other participants discussed the importance of resolving the Qualifying Facilities' (QF) pricing and policy issues.

To request a copy of this notice, please contact:

Karen Terranova  
Alcantar & Kahl LLP  
120 Montgomery Street, Suite 2200  
San Francisco, CA 94104  
Telephone: (415) 421-4143  
Email: [kt@a-klaw.com](mailto:kt@a-klaw.com)

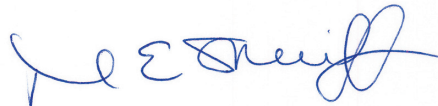
Dated: July 26, 2007

Respectfully submitted,



Michael Alcantar  
Rod Aoki

Counsel to the Cogeneration  
Association of California



Evelyn Kahl  
Nora Sheriff

Counsel to the Energy Producers  
and Users Coalition

## Discussion Points for R.04-04-025 and R.04-04-003

1. **Specific Standard Offer Contract Option** is needed and essential – non-price terms and conditions of the EEI-based SCE-Mountainview contract; no “gold rush” under CPUC pre-approval and fixing reasonable commercial milestones.
2. Conceptual agreements from CAC/EPUC and TURN comments:
  - ◆ **New Small QFs and Contract Eligibility** -- new “small” QFs (*i.e.*, capacity of 20 MW or an annual energy delivery equivalent) eligible for standard offer contracts; bilateral contracting or RFO process will not work for these resources.
  - ◆ **Fixed pricing option for LRAC** – TURN conceptually agrees with using the full MPR for a CCGT with a fixed heat rate as proposed by CAC/EPUC; full MPR capacity price is \$154 including all fixed costs; heat rate is 6,918 Btu/kWh; O&M adder brings heat rate to CAC/EPUC’s recommended 7,500 Btu/kWh.
  - ◆ **Bandwidth Ceiling and Floor for “Market” Heat Rates** – have rational ceiling and floor for “market” heat rates that reflect actual gas fired generator operations for California projects; 10,000 Btu/kWh High Heating Value TURN recommended ceiling and 7,000- 7,210 Btu/kWh HHV CAC/EPUC recommended floor reflecting Mountainview terms.
3. **Long Term (not 8 month) QF Policy** – resolve issues for long term planning and do not start over again with MRTU implementation; uncertainty in procurement must be solved.
4. **Establish Decision on State Law** – rely on state law for CPUC directive on procurement, and not at-risk federal law PURPA provisions; blunt utility appellate challenge.
5. **No Piecemeal Implementation** – assure no price changes under “bridge” SO1s until new contracts are available and implemented.
6. **CPUC versus CAISO Jurisdiction for CHP** – Do not make private CHP companies CAISO utility-like market participants or scheduling coordinators. Harmonize inconsistency in proposed decision regarding CAISO jurisdiction over CHP (see page 130 requiring compliance with CAISO tariff versus page 87 – CAISO “*will have to accept [QF Power] as must-take and focus on refining and shaping IOU power portfolios through the use of other resource options.*”).
7. **Technical Issues**
  - ◆ Clarify designation of burner tip gas prices for energy pricing calculation.
  - ◆ Re-establish existing rulings on Resource Adequacy Tariff compliance for CHP.
  - ◆ Correct As-available capacity pricing:
    - Escalate 2004 CT costs to 2007 dollars,
    - Annual inflation adjustment to variable O&M,
    - Remove ancillary services reduction as inconsistent with TOU factor applications.
  - ◆ **New QFs** (greater than 20 MW) eligible for standard QF contracts through PRG process; no oversubscription if new QF replaces baseload service provided by expiring or terminated DWR or QF contracts; or percent of new load growth reserved for CHP.

**Table 1**  
**Qualifying Facility (QF) Programs**  
**Adopted and Existing**

No.	Provision	<b>Prospective QF Program</b> (Adopted) (For any future contract for expiring and expired QFs; and for New QFs as described)		<b>Existing QF Program</b> (Will phase out with QF Contract Expiration)	
		<u>One- to Five-Year</u> <u>As-Available Energy</u> Contract	<u>One- to Ten-Year</u> <u>Unit Firm Capacity</u> Contract	<b>Adopted</b>	<b>Current</b>

**Recommendation:** Non-price terms and conditions for must-take QF resources must be non-discriminatory to ensure an effective, secure, and commercially viable QF Program. Terms and conditions should be on par with those applicable to utility resources (e.g., Mountainview) and implemented simultaneously with adopted avoided cost pricing.

1	Energy Price	<u>Market Index Formula (MIF)</u> For PG&E, SCE, and SDG&E: Same as SCE's current SRAC formula as adopted in D.01-03-067, with the exception that the heat rate, or Incremental Energy Rate (IER), component will instead be calculated from a twelve-month rolling average* of historical NP-15 or SP-15 Day Ahead market price data with a "collar" around the possible IER values to provide a cap and a floor to mitigate excessive volatility.		Market Index Formula (MIF) Same as in the Prospective QF Program, or as contractually based, e.g., fixed price agreement or SRAC energy variant.	SRAC Transition Formula for PG&E and SDG&E; and the Modified Transition Formula for SCE.
---	--------------	--	--	---	--

**Recommendation:** The Energy Price "Cap and Floor" should reflect real operating resource higher heating value (HHV) heat rates (i.e., TURN's 10,000 Btu/kWh CT; Mountainview's 7,000 Target Full Load Heat Rate at a "new and clean" condition).

A firm and fixed 7.4¢/kWh "All In" price option (at an assumed \$7.50/MMBtu gas price) should be offered to QFs.

IOU burner-tip gas prices for SCE and SDG&E should be the sum of: (1) the bid-week Topock-CA Border natural gas price; and (2) the intrastate natural gas transportation cost. For PG&E the burner-tip natural gas price should be the sum of: (1) the simple average (i.e., 50%/50% weighting) of the bid-week Malin and Topock-CA Border natural gas prices and (2) the intrastate natural gas transportation cost.

2	Capacity Price	As-available capacity payments will not fall below the first-year capacity price for the duration of the contract.	The capacity payment will be fixed for the duration of the contract.	Existing contractually-based capacity payments remain unchanged.  -----	Posted Price for As-Available Capacity.  -----  -----
2a	Calculation of Capacity Price	Based on the fixed cost of a Combustion Turbine (CT) as proposed by TURN, less the estimated value of	Based on the MPR capacity cost in E-4049 of \$980/kW which results in an annual cost of \$104/kW-yr.	Eligibility: If as-available capacity counts for purposes of Resource Adequacy (RA), QFs will receive a	Contractually-Based Capacity Prices.

		Ancillary Services (A/S) as generally proposed by SDG&E.		capacity payment.	
<b>Recommendation:</b> The beneficial term and duration of the adopted capacity pricing should be matched by sound capacity price calculations. The as-available calculation's flaws should be corrected through escalation of the 2004 CT costs (\$60.94/kW-yr) to 2007 (\$66.92/kW-yr), an annual inflation adjustment to the variable O&M, and removal of the A/S credit adjustment as inconsistent with TOU Factor applications.. <p>The MPR firm capacity calculation should be corrected to include (1) all fixed CCGT cost components (<i>i.e.</i>, return costs, depreciation costs, and income and property taxes, insurance costs and fixed O&amp;M),and (2) local QF benefits.</p>					
3	Daily Scheduling	Standard CAISO Timetables and Protocols for Day-Ahead Schedules for QFs greater than 1MW**		No Change	None
<b>Recommendation:</b> Retention of the utilities' traditional role of Scheduling Coordinator for QF power deliveries and interface with the ISO maintains a critical component for the success the Prospective QF Program. State jurisdiction ( <i>e.g.</i> , Rule 21 interconnection oversight) over QF resources should be maintained in a manner that is consistent with the ISO Tariff but does not subject these resources to unnecessary ISO Tariff obligations.					
4	Forecasting	Weekly, Monthly and Annual Forecasts**		No Change	None
<b>Recommendation:</b> Forecasting issues – See comment to Provision 3 above.					
5	Deliveries	SC-SC Trade (where SC = Scheduling Coordinator for QFs greater than 1MW)**		No Change	None. Utility is now the Scheduling Coordinator.
<b>Recommendation:</b> Delivery issues – See comment to Provision 3 above.					
6	Emergency Response	Standard ISO Emergency Response Provisions**		No Change	None
<b>Recommendation:</b> Emergency Response issues – See comment to Provision 3 above.					
7	CPUC Performance Requirements	Day-Ahead Scheduling**	Penalties to Capacity Payment for Failure to Deliver 95% during on-peak months and 90% during off-peak months (no counting scheduled outages).** This is a Qualifying Capacity provision.	No Change	None
<b>Recommendation:</b> Monthly peak and off-peak period QF delivery requirements, consistent with traditional QF operations, should be established.					
8	Credit	None**	None**	No Change	None
<b>Recommendation:</b> The credit support policy for QFs with expiring contracts must be maintained to ensure retention of the utilities' QF supplies.					

9	Termination Rights	QF has the ability to terminate if selected in native utility solicitation**	No Change	QF has the unilateral right to terminate on 30-days notice. ----- IOU termination rights are tied to QF non-performance, and QFs can also be derated.
---	--------------------	--	-----------	---

**Recommendation:** Provisions regarding termination rights, similar to other standard terms and conditions, must be addressed expeditiously and implemented in concert with changes in avoided cost pricing calculations.

10	New QFs	New QFs may seek a contract under the Prospective QF Program. If an IOU claims a new QF contract will result in over-subscription, the IOU shall meet and confer with its Procurement Review Group (PRG) within 20 days of receiving such a request from a new QF. The Commission's Energy Division will prepare a brief summary of the PRG meeting regarding the IOU's ability to enter into the new QF contract. If the PRG feedback is unfavorable toward the new QF, the new QF may opt to file a formal complaint with the Commission.	--	--
----	---------	---	----	----

**Recommendation:** A simple 20 MW capacity or annual GWH equivalent (164.25 GWH annual delivery) measure should be established to exempt from the PRG process "small" QFs with no significant impact on the respective utility's portfolio.

New QFs not meeting the above measure should obtain standard contracts through the PRG process. The PRG process must, however, recognize the lack of risk of oversubscription where: (1) new QFs would serve a specified percentage of the baseload portfolio historically served by expiring or terminated CDWR contracts; or (2) new QFs would serve load equivalent to or less than the percentage of load served by existing QFs multiplied by the new load growth.

11	CAISO Resource Adequacy (RA) Tariff	QFs with a dependable capacity of greater than 1 MW shall comply with the CAISO RA tariff.	--	--
----	-------------------------------------	--	----	----

**Recommendation:** QFs should comply with applicable tariff provisions that support Resource Adequacy requirements, but should not be needlessly subject to CAISO Tariff jurisdiction or requirements which do not appropriately account for the unique operating characteristics of these resources.

## APPENDIX

### PROPOSED MODIFICATIONS (Additions, deletions)

#### Page 2

Specifically, we adopt:

- **The Market Index Formula (MIF)**, which is an updated short-run avoided cost (SRAC) formula for pricing SRAC energy. The MIF is based on the formulistic method adopted in Decision (D.) 01-03-067 Modified Transition Formula but contains a market-based heat rate component, instead of an administratively determined incremental energy rate (IER);

\*\*\*

#### Page 2-3

- **Prospective QF Program Contract Provisions**
  - SRAC Energy Payments: Market Index Formula (MIF). Existing QF contracts with energy pricing provisions specifically stating that the Commission determined providing SRAC is the basis for energy payment will also be priced pursuant to the MIF.
  - Payments for As-Available Capacity: Based on the full fixed cost of a Combustion Turbine (CT) and the economic carrying charge as proposed by The Utility Reform Network (TURN), less the estimated value of Ancillary Services (A/S) as generally proposed by San Diego Gas & Electric Company (SDG&E).

#### Page 3

- Payments for Firm Capacity: Based on the market price referent (MPR) capacity cost adopted in Resolution E-4049 of \$980/kW, annualized over a 20-year term at a Weighted-Average Cost of Capital (WACC) rate of 8.5%, which results in an annual amortized cost of \$154.04/kW-year.

\*\*\*



**An Entry Procedure for New QFs.** New QFs may seek either of the aforementioned contracts as follows:

- New QFs may seek a standard contract under the Prospective QF Program just as existing QFs may. However, if an IOU claims a new QF contract will result in over-subscription, the IOU shall meet and confer with its Procurement Review Group (PRG) within 20 days of receiving such a request from a new QF. The Commission's Energy Division will prepare a brief summary of the PRG meeting regarding the IOU's ability to enter into the new QF contract. If the PRG feedback is unfavorable toward the new QF, the new QF may opt to file a formal complaint with the Commission. The Commission will allow new QFs to obtain a standard contract under the Prospective QF Program where: (1) the new QF will serve a portion of the baseload portfolio that was historically served by CDWR contracts as those contracts expire or are terminated, and (2) the new QF will serve load equivalent to or less than the percentage of load served by existing QFs multiplied by new load growth.
- New, as available QFs may also receive a standard contract under the Prospective QF Program. Projects that are 219,000 GWh (25 MW X 8760) or less in size and that consume at least 25% of their power internally and sell all of their additional output to the utility are eligible for a contract. The 25% requirement includes any increments of new capacity added to the project.
- Where the new QF sells all of its output to the interconnected utility it's interconnection shall be governed by state Rule 21.

**Page 4**

Two recent developments limit the effect of this order on energy prices and capacity prices over the next five years because (1) a large number of QFs have entered into contractually based energy pricing agreements, and (2) many existing QFs are on contractually based capacity pricing.

## **Page 6**

Accordingly for PG&E, SCE, and SDG&E, we define and adopt the Market Index Formula or “MIF” to calculate SRAC energy payments to QFs. The MIF equation employs the formulistic approach ~~is similar to the Modified Transition Formula~~ we adopted for SCE in D.01-03-067, with the exception that the market-based heat rate component, formerly the Incremental Energy Rate (IER), will be calculated from a 12-month rolling average of historical North of Path 15 (NP15) or South of Path 15 (SP15) Day-Ahead (DA) market price data with a “collar” around the possible IER values to provide a cap and a floor consistent with actual operational generation resource heat rate to mitigate excessive pricing uncertainty ~~volatility~~.

## **Page 7**

However, we are persuaded that there are currently few options to utility purchases, particularly for Small QFs, whose size prevents them from participation in the CAISO markets. These QF should continue to have available standard offers, albeit at market-based prices.

## **Page 7-8**

For these reasons, we adopt two flexible market-based contract options in addition to the competitive solicitation and bilateral contracting options already available to QFs. ~~To safeguard against oversubscription in the future, we adopt a process by which the utilities can request relief from the requirement to enter into the standard offers.~~ QF resources acquired under the prospective QF program per se benefit ratepayers.

First, QFs who choose only to provide non-firm, as-available power will have access to a one- to five-year as-available contract with energy prices

based on the MIF formula and posted as-available capacity payments based on the full cost of a combustion turbine ~~less the estimated value of Ancillary Services~~.

Second, we will make available a one-to-ten-year contract for firm unit-contingent power, with energy prices based on the MIF formula, and capacity payments based on the market price referent (MPR) capacity cost adopted in Resolution E-4049 of \$980/kW, annualized over a 20-year term at a Weighted Average Cost of Capital (WACC) rate of 8.5%, which results in an annual amortized cost of \$15404/kW-year. This longer-term contract option is intended to provide sufficient contract and pricing certainty to allow QFs to make decisions on capital expenditures for facilities and upgrades.

## **Page 9**

We also continue to require the utilities to make available CAISO scheduling services to all QFs. ~~QFs whose size prevents them from participation in the CAISO markets should not have to establish scheduling operations staff to interact with the CAISO.~~

## **Page 53**

PG&E further asserts that eExisting resources in PG&E's portfolio (i.e., utility retained generation, CDWR, and those contractual obligations which allow economic dispatch) are regularly compared to the market price, with power being either bought or sold at that price. Regardless of the resource stack, according to PG&E, the utility's avoided cost for a given hour becomes the market price. The market price that PG&E contends that it uses to determine what resources are dispatched in northern California is the NP15 price. If the dispatch decision is made day-ahead, then the price is the day-ahead NP15 price.

If the dispatch decision is made hour-ahead, then the price is the hour-ahead NP15 price. PG&E's states that its traders are active in the market and are keenly aware of current prices at which sellers are offering, buyers are bidding and the price at which the most recent transaction was executed. Price discovery is available through voice brokers, electronic trading platforms, such as the ICE, and direct contact with trading counterparties. (*Id.*, p. 3-10.)

#### **Page 59-60**

We agree that SRAC energy prices should reflect power prices as reported at the NP15 trading point for PG&E, and the SP15 trading point for SCE and SDG&E. Although the Day-Ahead market prices may not include all of the types of contracts that exist in the electricity industry today, these are the energy costs that ~~would otherwise be incurred by the utilities~~ incur in the short run to ~~replace QF~~ power. QF parties contend that the NP15/SP15 prices are below utility avoided cost, yet the power products at NP15/SP15 are for firmer power products than the as-available energy provided by QFs.

#### **Page 62**

~~Finally, while we find that a MIF based on Day-Ahead prices best reflects the utilities' avoided cost, we expect that a further update will be required when the CAISO's MRTU is operational, at which point the CAISO's day ahead market will likely be the appropriate benchmark for pricing SRAC energy.~~

#### **Page 63**

Given the uncertainty in formulating such estimates, all three utilities will now be on the MIF as described herein. With regard to our consistency goal in this avoided cost rulemaking, there is no compelling reason to not adopt the same

variable O&M adder for all three utilities. As SDG&E notes in its direct testimony, the Commission has adopted variable O&M figures for other purposes:

SDG&E proposes the variable O&M component be based on the variable O&M of a Combined Cycle Gas Turbine (CCGT). This level of variable O&M is consistent with the type of power that would replace QF power, baseloaded power supplies as provided by a CCGT. In the decision in phase 1 of this proceeding, D.05-04-024, the Commission recommended using the data developed in R.04-04-026 for the costs of operating a CCGT. For consistency, SDG&E proposes to use the 2004 value for the variable cost of a CCGT adopted in Phase 1. (Exhibit 85.)

We concur with the this approach of relying on the Market Price Referent CCGT variable O&M component and adopt it for use in the SRAC energy formulae for the three utilities.

## **Page 68**

As noted above, the Legislature did not adopt a specific formula, nor did it adopt specific TOUs factors. Therefore, it is appropriate to update the TOU or TOD factors periodically. The evidence in this proceeding clearly demonstrates that the TOU/TOD data is outdated. Unfortunately, the parties recommending specific changes to the TOU/TOD factors and periods did not provide a sufficient showing to support their recommendations. ~~Nevertheless, we believe that updating the IOUs TOU/TOD factors and periods to be consistent with the TOU factors adopted in other procurement proceedings is reasonable and will require the IOUs to include the TOU/TOD factors and periods utilized as part of their most recent RFOs. Therefore, we will~~ We also require the IOUs to provide updated TOU/TOD factors and periods when they file their next long-term procurement plans for approval.

## **Page 85-86**

Today, we adopt two contract options for expiring or expired QF contracts

and new QFs – Our Prospective QF Program. The first option is a one- to five-year as-available power contract. The second is a one- to ten-year firm, unit-contingent power contract. Payments for as-available capacity will be based on the fixed cost of a Combustion Turbine (CT) as proposed by The Utility Reform Network (TURN), ~~less the estimated value of Ancillary Services (A/S) as generally proposed by San Diego Gas & Electric Company (SDG&E).~~ Payments for firm, unit-contingent capacity will be based on the market price referent MPR) capacity cost adopted in Resolution E-4049 of \$980/kW, annualized over a 20-year term at a Weighted-Average Cost of Capital (WACC) rate of 8.5%, which results in an annual amortized cost of \$1540/kW-year.

#### **Page 88**

Once a full CT capacity value is determined, adjustments to that value may ~~should~~ be considered. For example, ~~we agree that~~ the value of additional (ancillary services) revenue streams associated with the physical ownership of an actual CT may ~~should~~ be accounted for in our estimate of capacity value. In its rebuttal testimony, CCC recommended the use of the full cost of a CT as the avoided value of as-delivered capacity, but also acknowledged that an adjustment to as-delivered capacity prices would be warranted given certain substantial evidence. (Exhibit 103, pp. 59-60.) CCC explored TURN's evaluation of the potential for such an adjustment based on an assessment of energy profits where an adjustment hinged on an accurate estimate of the number of hours of annual CT operation.

#### **Page 89 - 90**

We agree with TURN, SCE, and SDG&E that the avoided CT annual cost should be based on an economic carrying charge rate, escalated for inflation over the life of the contract. Using a levelized nominal dollar value to

compute the CT annual cost would ~~overstate the avoided capacity cost as well as~~ present additional cost and risk for utilities and ratepayers. A primary concern is that the use of a levelized nominal value would require higher capacity payments in early years, exposing the utilities and their ratepayers to the risk of nonperformance if the QF went off-line or simply failed to perform. While termination penalties or the posting of security could mitigate some of the concern, calculating a CT cost based on an economic carrying charge rate and escalating for inflation would eliminate this concern. In addition, as pointed out by SCE and TURN, it would be inappropriate to use a 20-year levelized value for a contract of less than 20 years in length. Using an economic carrying charge rate, escalated for inflation over the life of the contract, allows us to provide more flexibility in contract terms, from one year up to five years with the same CT cost estimate. ~~As available capacity prices should be expressed in real dollars.~~

## **Page 90**

For the as-available contract option, we adopt the CT cost and real economic carrying charge rate calculations proposed by TURN as presented in Exhibit 149, Appendix B, ~~with an ancillary services adjustment subtracted from the adopted value as suggested by SDG&E. The estimated ancillary services value proposed by SDG&E is an annual average value; however, we believe this is an over-estimate and should be adjusted downward to reflect the fact that SDG&E's value of \$14.82/kW-year is more indicative of a peak value. Accordingly, we reduce it by two thirds to \$4.94/kW-year. Based on the assumptions presented in Exhibit 149, Appendix B, TURN calculates a total marginal CT cost of \$64.13/kW-year in 2006. Using the adopted TURN value for \$64.13, the resulting capacity value would be \$59.19/kW-year (\$64.13/kW-year - \$4.94/kW-year).~~

## **Page 93**

<b>Figure 2</b> <b>Simple Interest Annual Payment for Capacity</b> <b>Given the Baseload MPR Capacity Price</b>				
<b>\$/kW</b>	<b>Rate %</b>	<b>years</b>	<b>\$/kW-year</b>	<b>E-4049, Appendix E 2006 MPR Non-Gas Inputs</b>
\$ 980.00	7.13%	20	\$93	Cost of Long-Term Debt is 7.13%
<del>\$980.00</del>	8.5%	20	<del>\$154</del> 04	WACC: Weighted-Average Cost of Capital = (Cost of Equity x Equity %) + (Cost of Debt x (1-tax rate) x Debt %)
\$ 980.00	12.78%	20	\$138	The Cost of Equity is 12.78% in the latest MPR Resolution E-4049

**Page 95**

The QF Parties recommend that the Commission should provide the following options to QFs with expiring contracts and new QFs: (1) A QF could choose to be paid SRAC and as-available capacity payments (similar to the existing SO1 contracts); (2) If the QF is willing to enter into a PPA of at least 10 years but no more than 20 years, the QF should receive a PPA based on the all-in cost of a new combined cycle power plant, using updated assumptions and the Commission's MPR pricing model; and (3) negotiated agreements.

CAC/EPUC and CCC also recommend that the Commission adopt, as a goal, a cogeneration portfolio standard. The cogeneration portfolio standard would require the utilities to continue to make available long-term standard offer contracts until they achieve a 25% increase in the amount of cogeneration in California over and above January 1, 2005 levels by the end of 2010.

**Page 112**



We agree with TURN in part, that what the IOUs “avoid” by purchasing QF energy is the price that they would otherwise pay ~~in the wholesale market~~ for replacement energy. ~~Thus, for~~ purpose of determining short-run energy payment to QF in this proceeding, we find that the SRAC price should reflect the Day-Ahead market prices. For longer-term contracts, the IOUs generally avoid procurement of baseload capacity. We find that, aside from the QF contract options presented in this order, the price should be the result of a competitive process.

#### **Page 116 - 117**

First, for existing QFs, the utilities shall offer new one- to five-year, as-available standard offer contracts to QFs. The contracts shall be updated to require compliance with CAISO tariffs, including the Resource Adequacy (RA) tariff, to the extent those tariffs are applicable to the QF. However, QFs with expiring contracts seeking to sign new, one- to five-year as-available contract shall not be required to provide new credit support provisions nor new interconnection studies.

#### **Page 117**

QFs under the one- to five-year as-available contracts shall receive SRAC energy payments as discussed herein along with the as-available capacity payment described herein. Future standard ~~New~~ contracts will be subject to any changes in capacity payments resulting from future modifications to the RA counting rules, however, no existing contracts will ~~not~~ be affected. The utilities ~~QFs larger than one megawatt in dependable capacity~~ will be responsible for scheduling coordination with the CAISO, however, QFs have the option of acting as their own scheduling coordinators. To the extent the utility is not acting as the scheduling coordinator, it must offer scheduling coordinator services to the QF ~~the utilities must provide that service~~ for a reasonable cost. We adopt

PG&E's recommendation to use the EEI Master Contract as a starting point for new standard QF contracts, as described herein.

Second, the utilities will offer a one- to ten-year contract term to those QFs with expiring contracts that are willing to provide unit firm capacity and that desire a longer-term contract. As with the as-available contracts, QFs under the one- to ten-year fixed capacity contracts will receive the revised SRAC energy payments as discussed herein. Long-term firm capacity payments will be based on the MPR capacity cost of \$980/kW adopted in Resolution E-4049 which results in an annual cost of \$~~1540~~4/kW-year. The higher capacity payments associated with the firm capacity contracts will appropriately compensate the QFs for the increased hedge value of assuring firm capacity for a longer term. These contracts will only be available to those QFs willing to offer unit-firm capacity. Locational benefits, if provided by these QFs, will also be compensated. The all-in payments, excluding the QF-specific locational benefits, associated with the two prospective QF Program options are shown in Table 4a, attached to this order, at an illustrative gas price. QFs may also elect an LRAC firm pricing option consistent with CAC/EPUC's recommendation summarized in Table 7 for the term of the contract.

## **Page 117**

We adopt PG&E's recommendation to use the EEI Master Contract as a starting point for new QF contracts, as described herein. Non-price terms and conditions under our Prospective QF Program must be non-discriminatory; i.e., at least equal to utility-owned procured resource provisions. Accordingly, standard offer contracts under the Prospective QF Program shall specifically provide for the pass through of future "regulatory legal risk conditions" (e.g., Greenhouse Gas costs, regulatory compliance required capital additions, Electric Reliability Organization costs.

## **Page 117-118**

The new standard contracts will also have updated performance requirements to reflect the firm capacity, but QFs with expiring contracts seeking to sign new unit-firm contracts shall not have to provide additional credit support, nor should they be required to perform additional interconnection studies. The utilities will continue to be QFs larger than one megawatt are responsible for scheduling coordination, although the QF has the option to act as its own scheduling coordinator. To the extent the utility does not act as a scheduling coordinator, it utilities must offer scheduling service to QFs at a reasonable cost. QFs who are not able to offer unit firm capacity will be able to either continue on a one- to five-year as-available contract from year to year or may participate in utility resource solicitations and bilateral negotiations.

#### **Page 118**

... we expect that as old QF contracts expire, new or renewed QF contracts will replace them. All QF resources acquired under the prospective QF program constitute per se ratepayer benefits. Also, increases in QF contractual capacity that are consistent with increases permitted by Public Utilities Code § 371 will be accommodated by the standard contracts in the prospective QF program.

#### **Page 118-119**

A ~~If a new QF may have seeks access to one of the~~ standard contract options described above just as an existing QF has, ~~and the IOU contends it would be inconsistent with the existing need determination from the Long Term Procurement Plan (LTPP) proceeding, the utility must consult with its Procurement~~

~~Review Group (PRG) within 20 days of receiving a contract request from a QF. The PRG consultation period shall be initiated within 20 days of receiving a contract offer from a QF. If a QF believes that a contract is being unreasonably withheld, it may file a complaint with the Commission. The Commission will allow new QFs to obtain a standard contract under the Prospective QF Program where: (1) the new QF will serve a portion of the baseload portfolio that was historically served by CDWR contracts as those contracts expire or are terminated, and (2) the new QF will serve load equivalent to or less than the percentage of load served by existing QFs multiplied by new load growth. New, as available QFs may also receive a contract under the Prospective QF Program. Projects that export 164,250 MWh (25 MW X 8760 X 0.75) or less and consume at least 25% of their power internally and sell all of their additional output to the utility are eligible for a contract. The 25% requirement includes any increments of new capacity added to the project. Where the new QF sells all of its output to the interconnected utility it's interconnection shall be governed by state Rule 21. Utilities and QFs will also have the opportunity to address the need for new contracts as part of the utilities' long-term procurement plan filings in R.06-02-013 or its successor.~~

## **Page 121**

Furthermore, requiring the utilities to make available one to ten-year unit firm capacity contracts, as well as optional one- to five-year as-available contracts is consistent with and supports one of the key actions in the EAP II. ~~Our prospective QF Program process will ensure that the amount of QF power under contract is consistent with the utilities' need. If a utility currently does not need~~

~~additional QF power, for example, the utility is only required to renew existing contracts if it chooses, and will not be required to purchase new QF capacity if the utility can demonstrate that it no longer needs capacity.~~

## **Page 130**

We find that QFs should generally be required to comply with applicable CAISO tariff requirements, however, as recommended by the CAISO and SDG&E, we do not expect existing QFs to be required to complete new interconnection studies. As observed by several parties, neither the CAISO nor the utilities have described what type of disruption would be caused by retaining QFs' existing arrangements, and in fact, CCC points out that the Kern River Cogeneration Company (KRCC) contract would extend KRCC's existing interconnection agreements for the term of that contract, five years. The current "CAISO exempt" and "must-take" status of the QF contracts stems from the fact that the CAISO did not exist when the contracts were signed. New contracts must explicitly take the existence of the CAISO and its tariff requirements into account. We reject ~~adopt~~ PG&E's recommendation that QFs one MW or greater should be required to comply with the CAISO tariffs. We also reject ~~adopt~~ PG&E's recommendation that QFs serve as their own scheduling coordinators. The CAISO must accept QF power as a "must-take" resource and QFs greater than one MW should only be required to comply with CAISO Tariff provisions to the extent the provisions are directly applicable to QF operations. Moreover, t~~The utility should continue to serve as the scheduling coordinator for~~ QFs, however, the QF should have has the option of serving as its own scheduling

coordinator. The QF has the ~~with the~~ option of purchasing these services from the utility at cost.

## **Page 134**

The Assigned Commissioner may convene a workshop to begin no later than 14 days from the final decision's mailing date to address implementation issues left unresolved by the final decision. Interested parties shall file proposed standard offer contract forms no later than June 7, 2007, with reply comments on the proposals no later than June 21, 2007. If there are unresolved issues pertaining to the standard offers provide that those issues may be addressed at the post-final decision workshop on implementation issues. Alternatively, if the issues have been sufficiently addressed in written comments the Assigned Commissioner should issue a ruling on the provisions of the standard offer contract no later than 21 days after the conclusion of the Assigned Commissioner's workshop following the final decision. An Assigned Commissioner's Ruling on any outstanding implementation or standard offer contract issues will be issued no later than 21 days after the conclusion of the Assigned Commissioner's workshop following the final decision. ~~The respondent IOUs will have 45 days from the effective date of this decision within which to file and serve their draft standard offer contracts. There will be a comment period following the filing of the compliance contracts. The pricing determinations in this decision will not become effective until final standard offer contracts are available to QFs as discussed in this decision.~~

## PROPOSED MODIFICATIONS TO FOF AND COL

### Findings of Fact

~~8. It is neither reasonable nor practical to base short run avoided costs on a “QF-out” or “aggregate value” pricing methodology because the continuing long-term obligations to thousands of megawatts of QF power mean that QF power cannot be “out”.~~

9. 8. The Transition Formula was intended as a temporary measure, to be used to calculate SRAC energy payments until energy payments could be based on PX market-clearing prices pursuant to § 390(c).

~~10.~~ 9. The PX is no longer operational.

~~11.~~ 10. SRAC energy payments under the Transition Formula have exceeded market prices, and potentially avoided costs, on occasion.

~~12. Given the amount of QF generation currently under contract to the IOUs, an energy price that is based on an assumption that a large block of that generation has disappeared is not reasonable.~~

~~13.~~ 11. Each of the utilities has demonstrated that market prices play a key role in achieving least cost dispatch.

~~14.~~ 12. SRAC energy prices should reflect power prices consistent with the utilities’ avoided costs. ~~as reported the NP 15 trading point for PG&E and the SP 15 for SCE and SDGE.~~

~~15-~~ 13. PG&E's energy pricing proposal links the SRAC energy prices to day-ahead trading points, but would require formal Commission updates immediately and on an ongoing basis.

~~16-~~ 14. SDG&E's energy pricing proposal is ~~consistent with § 390 (b) and~~ linked to market prices.

~~17-~~ 15. SCE's energy pricing proposal is preferable to SDG&E's because it uses a twelve-month rolling average of historical market prices as opposed to a two-year average, resulting in SRAC energy prices that reflect more current market prices. SCE's method of calculating SRAC is reasonable. SCE uses a twelve-month rolling index of historical Day-Ahead market prices in lieu of pre-1996 Incremental Energy Rate (IER) values. This method yields a SRAC that more closely reflects the short-run resources the utility currently would purchases ~~in the absence of QF generation.~~

~~18-~~ 16. A Market Index Formula based on day-ahead market prices best reflects the utilities' short-run energy purchases~~avoided cost.~~

~~19-~~ 17. There is no compelling reason not to adopt the same variable O&M adder for all three utilities.

~~20-~~ 18. With regard to avoided cost, whether the utility bought the gas to run its own plant, or bought the power from a merchant plant fueled by natural gas, burner-tip gas would be required.

~~21-~~ 19. The Legislature did not adopt a specific formula or specific factors for use in implementing § 390(b).

~~22-~~ 20. It is reasonable to update the TOU factors used to calculate SRAC ~~to be~~ consistent with TOU factors adopted in future ~~other~~ Commission proceedings.



23. 21. The MIF is based in part on day-ahead market prices, but is not a direct market price proxy as envisioned in D.01-01-007.

24. 22. Pursuant to D.04-10-035, QF as-available capacity currently “counts” for purposes of meeting RA requirements.

25. 23. The firmness of bilateral power may vary by trade, whereas the power products traded on ICE are clearly defined. Power contracts traded on ICE are liquidated damages (LD) contracts that are not unit contingent.

26. 24. Power indices are also published for the long-term forward market where power is sold by the month, quarter, and year. These forward prices, along with day-ahead power, represent firm power products priced on an all-in basis, with no separate capacity payment. Delivery is certain and subject to recourse.

27. 25. NP15/SP15 day-ahead contracts are ~~significantly~~ firmer than QF as-available power contracts which have no penalties for non-delivery, no forecasting requirements, no performance requirements, and a unilateral right to terminate on 30-days notice.

28. 26. As-available power priced using NP15/SP15 implied market heat rates will provide a clear, market-based default contract for QFs that do not opt to provide power under one of the unit-firm contract options, negotiated bilaterals, or as-bid in an IOU power solicitation.

29. 27. Using a levelized nominal dollar value to compute the CT cost would ~~overstate the avoided capacity cost as well as~~ present additional cost and risk for utilities and ratepayers.

~~30.~~ 28. Using an economic carrying charge rate, escalated for inflation over the life of the contract, allows us to provide more flexibility in contract terms, from one year up to ten years with the same CT cost estimate.

~~31.~~ 29. For purposes of calculating payments for as-available capacity, it is reasonable to adopt the full CT cost and ~~real~~-economic carrying charge rate calculations proposed by TURN as presented in Exhibit 149, Appendix B, ~~with an ancillary services adjustment subtracted from the adopted value as suggested by SDG&E.~~

~~32.~~ 30. It is not reasonable to reduce CT annual capacity cost by the estimated ancillary services value proposed by SDG&E ~~by two thirds to reflect the fact that SDG&E's value is an annual average value and ancillary services needs occur primarily in peak periods. Accordingly, we reduce SDG&E's suggested ancillary services value by two thirds to \$4.94/kW-year.~~

~~33.~~ 31. A simplified version of the Edison Electric Institute Master Agreement will be the basis for our prospective QF Program contract options. The simplified version should contain, at a minimum, the contract features presented in Table 1 of this decision.

~~34. Potential over subscription due to new QF contracts can be evaluated, first, through and IOU's Procurement Review Group (PRG) within 20 days of receiving such a request from a new QF. The Commission's Energy Division can prepare a brief summary of the PRG meeting regarding the IOU's ability to enter into the new QF contract. If the PRG feedback is unfavorable toward the new QF, the new QF may opt to file a formal complaint with the Commission~~

34. A new QF may have access to the standard contract options provided by the Prospective QF Program just as an existing QF has. The Commission will allow new QFs to obtain a contract under the Prospective QF Program where: (1) the

new QF will serve a portion of the baseload portfolio that was historically served by CDWR contracts as those contracts expire or are terminated, and (2) the new QF will serve load equivalent to or less than the percentage of load served by existing QFs multiplied by new load growth. New, as available QFs may also receive a contract under the Prospective QF Program. Projects that export 164,250 MWh (25 MW X 8760 X 0.75) or less and consume at least 25% of their power internally and sell all of their additional output to the utility are eligible for a contract. The 25% requirement includes any increments of new capacity added to the project. Where the new QF sells all of its output to the interconnected utility it's interconnection shall be governed by state Rule 21.

~~35.~~ 33. Long-term QF policy choices will continue to affect ratepayers for 10 to 20 years.

~~36.~~ 34. It is reasonable to extend our prospective QF Program contract options to QFs that are, or were, on contract extensions approved in D.02-08-071, D.03-12-062, D.04-01-050, and D.05-12-009.

35. QF resources acquired under the prospective QF program per se constitute ratepayer benefit.

36. Pricing terms must be predictable and secure for the entire term of any contract.

37. It is reasonable that our Prospective QF Program should accommodate increases in contractual capacity to the extent that such increases are consistent with Section 371 of the Public Utilities Code.

38. It is reasonable for the Commission to take into account the local benefits provided by QFs in the LRAC determination.

## Conclusions of Law

1. Pursuant to Pub. Util. Code § 390(b), SRAC energy payments shall be based on a Transition Formula until the requirements of § 390(c) are met.
2. As set forth in PURPA, avoided costs are the cost of energy, which, in the absence of QF generation, the utility would otherwise generate itself or purchase from another source.
- ~~3. No right, contract term, or fair market expectation exists that the Commission must adopt the QF in/QF out approach to developing short-run avoided costs.~~
- ~~4. The variable factor formulation of the Transition Formula, as established in D.01-03-067, and updates to the formula are legal and permitted by § 390(b).~~
- ~~5.~~ 3. The Commission should assure adjust the factors in the Transition Formula such that the SRAC energy prices resulting from the formula continue to accurately reflect the utilities' avoided costs.
- ~~6.~~ 4. Separate capacity payments should generally only be made for unit-contingent power products that are either dispatchable, or that are significantly firmer than the non-unit contingent, Liquidated Damages (LD) contracts (i) bought and sold at NP15/SP15, and/or (ii) scheduled for phase-out for Resource Adequacy (RA) purposes, per D.06-10-035.
- ~~7.~~ 5. The Unit-Firm one-to-ten year QF contracts should count toward RA requirements because these contracts are unit-contingent contracts with performance obligations and recourse for non-delivery.
- ~~8.~~ 6. Payments to QFs under PURPA must reflect the avoided cost of the utility purchasing the energy and capacity.

~~9. Failure to consider utility resource needs in our long-term QF policy options would prevent us from achieving our goal of environmentally sensitive, least-cost electric service.~~

~~10.~~ 7. IOUs should modify their monthly SRAC energy prices using the MIF adopted in this order. No pricing determinations under this decision shall go into effect until the Commission has approved the Prospective QF Program's standard offer contracts and those contracts are available to QFs.

~~11.~~ 8. IOUs should post the monthly SRAC energy prices and annual capacity prices on their websites and file the prices with the Commission's Energy Division and DRA.

~~12.~~ 9. PURPA does not require that the Commission make available long-term standard offer contracts.

~~13.~~ 10. A solicitation process wherein the IOUs would issue requests for offers from QF generators to meet specific, identified resource needs, ~~is~~ may be ~~insufficient to meet the must purchase obligations in PURPA.~~

~~14. Potential over-subscription due to new QF contracts should be evaluated, first, through and IOU's Procurement Review Group (PRG) within 20 days of receiving such a request from a new QF. The Commission's Energy Division should prepare a brief summary of the PRG meeting regarding the IOU's ability to enter into the new QF contract. If the PRG feedback is unfavorable toward the new QF, the new QF may opt to file a formal complaint with the Commission.~~

11. A new QF may have access to the standard contract options provided by the Prospective QF Program just as an existing QF has. The Commission will allow new QFs to obtain a contract under the Prospective QF Program where: (1) the new QF will serve a portion of the baseload portfolio that was historically served

by CDWR contracts as those contracts expire or are terminated, and (2) the new QF will serve load equivalent to or less than the percentage of load served by existing QFs multiplied by new load growth. New, as available QFs may also receive a contract under the Prospective QF Program. Projects that export 164,250 MWh (25 MW X 8760 X 0.75) or less and consume at least 25% of their power internally and sell all of their additional output to the utility are eligible for a contract. The 25% requirement includes any increments of new capacity added to the project. Where the new QF sells all of its output to the interconnected utility it's interconnection shall be governed by state Rule 21.

12. Non-price terms and conditions under our Prospective QF Program must be non-discriminatory; i.e., at least equal to utility-owned procured resource provisions. Accordingly, standard offer contracts under the Prospective QF Program shall specifically provide for the pass through of future "regulatory legal risk conditions" (e.g., Greenhouse Gas costs, regulatory compliance required capital additions, Electric Reliability Organization costs.

13. The CAISO must accept QF power as a must-take resource; QFs greater than one MW should only be required to comply with CAISO Tariff provisions to the extent the provisions are directly applicable to QF operations.

14. The utility should continue to serve as the scheduling coordinator for QFs, however, the QF should have the option of serving as its own scheduling coordinator. In such a case, the QF has the option of purchasing these services from the utility at cost.

15. The prospective QF Program contract options should be extended to QFs that are, or were, on contract extensions set forth in D.02-08-071, D.03-12-062, D.04-01-050, and D.05-12-009.

16. The prospective QF program should include an LRAC firm pricing option that reflects CAC/EPUC's recommended values for capacity and a fixed heat rate of 7,500 Btu/kWh and an established O&M adder for the term of the contract.

## **O R D E R**

### **IT IS ORDERED** that:

1. Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), and Southern California Edison Company (SCE) shall revise their short-run avoided cost (SRAC) calculations in conformance with the discussion, findings, and conclusions set forth in this decision as summarized in Table 1. The pricing determinations in this decision will not become effective until final standard offer contracts are available to QFs as discussed in this decision.

~~2. PG&E, SDG&E, and SCE shall file and serve their respective compliance draft Qualifying Facility contracts as directed by this decision within 45 days of the effective date of this decision. Parties may file comments on the draft contracts 21 days thereafter.~~

2. If implementation issues remain unresolved in the final decision the Assigned Commissioner shall convene a workshop to begin no later than 14 days from the final decision. The implementation workshop is to be strictly monitored process with the Assigned Commissioner presiding over issues identified and left unresolved by the final decision.

3. Parties shall file proposed standard offer contract forms no later than June 7, 2007. Reply comments on the proposals may be filed no later than June 21, 2007. If there are unresolved issues pertaining to the standard offers those issues may be addressed at the post-final decision workshop on implementation issues.

4. The Assigned Commissioner's Ruling on any outstanding implementation

or standard offer contract issues shall be issued no later than 21 days after the conclusion of the Assigned Commissioner's workshop following the final decision.

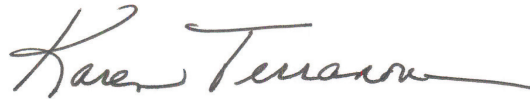
5. ~~3.~~ Rulemaking (R.) 04-04-003 and R.04-04-25 are closed. Filings from the Mohave application, A.02-05-046 ordered by D.04-12-016 to be filed in these proceedings are no longer to be filed. Instead, D.04-12-016 compliance reports are to be submitted to the ALJ and Energy Division and served on the service list for A.02-05-046. The service list for A.02-05-046 will now be a special service list in R.06-02-013. Filings from the 2006 Update phase of R.04-04-025 ordered in D.06-06-063 should be filed in R.06-04-010. The monthly SRAC postings ordered in this decision shall be submitted to the Energy Division and posted on each Investor Owned Utilities' web site.



## CERTIFICATE OF SERVICE

I, Karen Terranova hereby certify that I have on this date caused the attached **Notice of Ex Parte Communication** in R.04-04-003/R04-04-025 to be served to all known parties by either United States mail or electronic mail, to each party named in the official attached service list obtained from the Commission's website, attached hereto, and pursuant to the Commission's Rules of Practice and Procedure.

Dated July 26, 2007 at San Francisco, California.

A handwritten signature in cursive script, reading "Karen Terranova", written in black ink.

---

Karen Terranova

ROGER BERLINER  
BERLINER LAW PLLC  
1747 PENNSYLVANIA AVE. N.W., STE 825  
WASHINGTON, DC 20006  
roger@berlinerlawpllc.com

LISA M. DECKER  
CONSTELLATION ENERGY GROUP, INC.  
111 MARKET PLACE, SUITE 500  
BALTIMORE, MD 21202  
lisa.decker@constellation.com

JAMES ROSS  
RCS INC.  
500 CHESTERFIELD CENTER, SUITE 320  
CHESTERFIELD, MO 63017  
jimross@r-c-s-inc.com

TOM SKUPNJAK  
CPG ENERGY  
5211 BIRCH GLEN  
RICHMOND, TX 77469  
toms@i-cpg.com

PAUL M. SEBY  
MCKENNA LONG & ALDRIDGE LLP  
1875 LAWRENCE STREET, SUITE 200  
DENVER, CO 80202  
pseby@mckennalong.com

TIMOTHY R. ODIL  
MCKENNA LONG & ALDRIDGE LLP  
1875 LAWRENCE STREET, SUITE 200  
DENVER, CO 80202  
todil@mckennalong.com

MAUREEN LENNON  
CALIFORNIA COGENERATION COUNCIL  
595 EAST COLORADO BLVD., SUITE 623  
PASADENA, CA 91101  
maureen@lennonassociates.com

DANIEL W. DOUGLASS  
DOUGLASS & LIDDELL  
21700 OXNARD STREET, SUITE 1030  
WOODLAND HILLS, CA 91367-8102  
douglass@energyattorney.com

BERJ K. PARSEGHIAN  
SOUTHERN CALIFORNIA EDISON COMPANY  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770  
berj.parseghian@sce.com

JAMES WOODRUFF  
SOUTHERN CALIFORNIA EDISON COMPANY  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770  
woodruff@sce.com

JANET COMBS  
SOUTHERN CALIFORNIA EDISON COMPANY  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770  
janet.combs@sce.com

MICHAEL A. BACKSTROM  
SOUTHERN CALIFORNIA EDISON COMPANY  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770  
michael.backstrom@sce.com

DANIEL A. KING  
SEMPRA ENERGY RESOURCES  
101 ASH STREET  
SAN DIEGO, CA 92101  
daking@sempra.com

GEORGETTA J. BAKER  
SAN DIEGO GAS & ELECTRIC/SOCAL GAS  
101 ASH STREET, HQ 13  
SAN DIEGO, CA 92101  
gbaker@sempra.com

CRYSTAL NEEDHAM  
EDISON MISSION ENERGY  
18101 VON KARMAN AVE., STE 1700  
IRVINE, CA 92612-1046  
cneedham@edisonmission.com

W. PHILLIP REESE  
CALIFORNIA BIOMASS ENERGY ALLIANCE,  
LLC  
PO BOX 8  
SOMIS, CA 93066  
phil@reesechambers.com

MICHEL PETER FLORIO  
THE UTILITY REFORM NETWORK (TURN)  
711 VAN NESS AVENUE, SUITE 350  
SAN FRANCISCO, CA 94102  
mflorio@turn.org

Karen P. Paull  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
kpp@cpuc.ca.gov

Marion Peleo  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
map@cpuc.ca.gov

DEVRA WANG  
NATURAL RESOURCES DEFENSE COUNCIL  
111 SUTTER STREET, 20TH FLOOR  
SAN FRANCISCO, CA 94104  
dwang@nrdc.org

EVELYN KAHL  
ALCANTAR & KAHL, LLP  
120 MONTGOMERY STREET, SUITE 2200  
SAN FRANCISCO, CA 94104  
ek@a-klaw.com

EDWARD V. KURZ  
PACIFIC GAS AND ELECTRIC COMPANY  
77 BEALE STREET  
SAN FRANCISCO, CA 94105  
evk1@pge.com

SHIRLEY WOO  
PACIFIC GAS AND ELECTRIC COMPANY  
77 BEALE STREET, B30A  
SAN FRANCISCO, CA 94105  
saw0@pge.com

ANN G. GRIMALDI  
MCKENNA LONG & ALDRIDGE LLP  
101 CALIFORNIA STREET, 41ST FLOOR  
SAN FRANCISCO, CA 94111  
agrimaldi@mckennalong.com

KAREN BOWEN  
WINSTON & STRAWN LLP  
101 CALIFORNIA STREET  
SAN FRANCISCO, CA 94111  
kbowen@winston.com

JOSEPH M. KARP  
WINSTON & STRAWN LLP  
101 CALIFORNIA STREET  
SAN FRANCISCO, CA 94111-5802  
jkarp@winston.com

JEFFREY P. GRAY  
DAVIS WRIGHT TREMAINE LLP  
505 MONTGOMERY STREET, SUITE 800  
SAN FRANCISCO, CA 94111-6533  
jeffgray@dwt.com

ARTHUR L. HAUBENSTOCK  
PACIFIC GAS AND ELECTRIC COMPANY  
PO BOX 7442  
SAN FRANCISCO, CA 94120  
alhj@pge.com

MARY A. GANDESBERY  
PACIFIC GAS AND ELECTRIC COMPANY  
PO BOX 7442  
SAN FRANCISCO, CA 94120  
magq@pge.com

SARA STECK MYERS  
LAW OFFICES OF SARA STECK MYERS  
122 - 28TH AVENUE  
SAN FRANCISCO, CA 94121  
ssmyers@att.net

ALAN PURVES  
CALIFORNIA LANDFILL GAS COALITION  
5717 BRISA STREET  
LIVERMORE, CA 94550  
purves@grslc.net

RICK NOGER  
PRAXAIR PLAINFIELD, INC.  
2678 BISHOP DRIVE  
SAN RAMON, CA 94583  
rick\_noger@praxair.com

WILLIAM H. BOOTH  
LAW OFFICES OF WILLIAM H. BOOTH  
1500 NEWELL AVENUE, 5TH FLOOR  
WALNUT CREEK, CA 94596  
wbooth@booth-law.com

ANDREW HOERNER  
REDEFINING PROGRESS  
1904 FRANKLIN STREET, 6TH FLOOR  
OAKLAND, CA 94612  
hoerner@redefiningprogress.org

ERIC LARSEN  
RCM DIGESTERS  
PO BOX 4716  
BERKELEY, CA 94704  
elarsen@rcmdigesters.com

GREGG MORRIS  
GREEN POWER INSTITUTE  
2039 SHATTUCK AVE., SUITE 402  
BERKELEY, CA 94704  
gmorris@emf.net

JOHN GALLOWAY  
UNION OF CONCERNED SCIENTISTS  
2397 SHATTUCK AVENUE, SUITE 203  
BERKELEY, CA 94704  
jgalloway@ucsusa.org

NANCY RADER  
CALIFORNIA WIND ENERGY ASSOCIATION  
2560 NINTH STREET, SUITE 213A  
BERKELEY, CA 94710  
nrader@calwea.org

TOM BEACH  
CROSSBORDER ENERGY  
2560 NINTH STREET, SUITE 316  
BERKELEY, CA 94710  
tomb@crossborderenergy.com

PATRICK MCDONNELL  
AGLAND ENERGY SERVICES, INC.  
2000 NICASIO VALLEY RD.  
NICASIO, CA 94946  
pcmcdonnell@earthlink.net

BARBARA GEORGE  
WOMEN'S ENERGY MATTERS  
PO BOX 548  
FAIRFAX, CA 94978  
wem@igc.org

MICHAEL E. BOYD  
CALIFORNIANS FOR RENEWABLE ENERGY,  
INC.  
5439 SOQUEL DRIVE  
SOQUEL, CA 95073  
michaelboyd@sbcglobal.net

JOY A. WARREN  
MODESTO IRRIGATION DISTRICT  
1231 11TH STREET  
MODESTO, CA 95354  
joyw@mid.org

BARBARA R. BARKOVICH  
BARKOVICH & YAP, INC.  
44810 ROSEWOOD TERRACE  
MENDOCINO, CA 95460  
brbarkovich@earthlink.net

WILLIAM B. MARCUS  
JBS ENERGY, INC.  
311 D STREET, SUITE A  
WEST SACRAMENTO, CA 95608  
bill@jbsenergy.com.

RICHARD D. ELY  
DAVIS HYDRO  
27264 MEADOWBROOK DRIVE  
DAVIS, CA 95618  
hydro@davis.com

GRANT A. ROSENBLUM  
CALIFORNIA INDEPENDENT SYSTEM  
OPERATOR  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630  
grosenblum@caiso.com

STACIE FORD  
CALIFORNIA ISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630  
sford@caiso.com

ANDREW B. BROWN  
ELLISON, SCHNEIDER & HARRIS, LLP  
2015 H STREET  
SACRAMENTO, CA 95814  
abb@eslawfirm.com

DOUGLAS K. KERNER  
ELLISON, SCHNEIDER & HARRIS, LLP  
2015 H STREET  
SACRAMENTO, CA 95814  
dkk@eslawfirm.com

ANN L. TROWBRIDGE  
DAY CARTER MURPHY LLC  
3620 AMERICAN RIVER DRIVE, SUITE 205  
SACRAMENTO, CA 95864  
atrowbridge@daycartermurphy.com

MICHAEL ALCANTAR  
ALCANTAR & KAHL, LLP  
1300 SW FIFTH AVENUE, SUITE 1750  
PORTLAND, OR 97201  
mpa@a-klaw.com

CARLO ZORZOLI  
ENEL NORTH AMERICA, INC.  
1 TECH DRIVE, SUITE 220  
ANDOVER, MA 1810  
carlo.zorzoli@enel.it

DANIEL V. GULINO  
RIDGEWOOD POWER MANAGEMENT, LLC  
947 LINWOOD AVENUE  
RIDGEWOOD, NJ 7450  
dgulino@ridgewoodpower.com

WILLIAM P. SHORT  
RIDGEWOOD POWER MANAGEMENT, LLC  
947 LINWOOD AVENUE  
RIDGEWOOD, NJ 7450  
bshort@ridgewoodpower.com

RICHARD M. ESTEVES  
SESCO, INC.  
77 YACHT CLUB DRIVE, SUITE 1000  
LAKE HOPATCONG, NJ 7849  
sesco@optonline.net

CAROL A. SMOOTS  
PERKINS COIE LLP  
607 FOURTEENTH STREET, NW, SUITE 800  
WASHINGTON, DC 20005  
csmoots@perkinscoie.com

JOSEPH B. WILLIAMS  
MCDERMOTT WILL & EMERY LLP  
600 THIRTEENTH STREET, N.W.  
WASHINGTON, DC 20005-3096  
jbwilliams@mwe.com

MICHAEL A. YUFFEE  
MCDERMOTT WILL & EMERY LLP  
600 THIRTEENTH STREET, N.W.  
WASHINGTON, DC 20005-3096  
myuffee@mwe.com

ANAN H. SOKKER  
CHADBOURNE & PARKE LLP  
1200 NEW HAMPSHIRE AVE. NW  
WASHINGTON, DC 20036

ROBERT SHAPIRO  
CHADBOURNE & PARKE LLP  
1200 NEW HAMPSHIRE AVE. NW  
WASHINGTON, DC 20036  
rshapiro@chadbourne.com

TANDY MCMANNES  
SOLAR THERMAL ELECTRIC ALLIANCE  
101 OCEAN BLUFFS BLVD.APT.504  
JUPITER, FL 33477-7362

RALPH E. DENNIS  
FELLON-MCCORD & ASSOCIATES  
9960 CORPORATE CAMPUS DRIVE, STE 2000  
LOUISVILLE, KY 40223  
ralph.dennis@constellation.com

DOUGLAS MCFARLAN  
MIDWEST GENERATION EME  
440 SOUTH LASALLE ST., SUITE 3500  
CHICAGO, IL 60605  
dmcfarlan@mwgen.com

BRIAN HANEY  
UTILITY SYSTEM EFFICIENCIES, INC.  
1000 BOURBON ST., 341  
NEW ORLEANS, LA 70116  
brianhaney@useconsulting.com

DAVID SAUL  
SOLEL, INC.  
701 NORTH GREEN VALLEY PKY, STE 200  
HENDERSON, NV 89074  
david.saul@solel.com

CHRISTOPHER HILEN  
SIERRA PACIFIC POWER COMPANY  
6100 NEIL ROAD  
RENO, NV 89511  
chilen@sppc.com

RASHA PRINCE  
SAN DIEGO GAS & ELECTRIC  
555 WEST 5TH STREET, GT14D6  
LOS ANGELES, CA 90013  
rprince@semprautilities.com

HOWARD W. CHOY  
LOS ANGELES COUNTY ISD, FACILITIES  
OPERA  
1100 NORTH EASTERN AVENUE  
LOS ANGELES, CA 90063  
hchoy@isd.co.la.ca.us

DAVID L. HUARD  
MANATT, PHELPS & PHILLIPS, LLP  
11355 WEST OLYMPIC BOULEVARD  
LOS ANGELES, CA 90064  
dhuard@manatt.com

RANDALL W. KEEN  
MANATT, PHELPS & PHILLIPS, LLP  
11355 WEST OLYMPICS BLVD.  
LOS ANGELES, CA 90064  
pucservice@manatt.com

CURTIS KEBLER  
GOLDMAN, SACHS & CO.  
2121 AVENUE OF THE STARS  
LOS ANGELES, CA 90067  
curtis.kebler@gs.com

SAM HITZ  
CALIFORNIA CLIMATE ACTION REGISTRY  
515 S. FLOWER STREET, STE 1640  
LOS ANGELES, CA 90071  
sam@climateregistry.org

MICHAEL J. GIBBS  
ICF CONSULTING  
14724 VENTURA BLVD., NO. 1001  
SHERMAN OAKS, CA 91403  
mgibbs@icfconsulting.com

CASE ADMINISTRATION  
SOUTHERN CALIFORNIA EDISON COMPANY  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770  
case.admin@sce.com

ERIC J. ISKEN  
SOUTHERN CALIFORNIA EDISON COMPANY  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770  
j.eric.isken@sce.com

GARY L. ALLEN  
SOUTHERN CALIFORNIA EDISON  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770  
gary.allen@sce.com

LAURA GENAO  
SOUTHERN CALIFORNIA EDISON COMPANY  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770  
laura.genao@sce.com

LIZBETH MCDANNEL  
2244 WALNUT GROVE AVE., QUAD 4D  
ROSEMEAD, CA 91770  
lizbeth.mcdannel@sce.com

TORY S. WEBER  
SOUTHERN CALIFORNIA EDISON COMPANY  
2131 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770  
tory.weber@sce.com

JOY C. YAMAGATA  
SAN DIEGO GAS & ELECTRIC/SOCALGAS  
8330 CENTURY PARK COURT  
SAN DIEGO, CA 91910  
jyamagata@semprautilities.com

DON WOOD  
PACIFIC ENERGY POLICY CENTER  
4539 LEE AVENUE  
LA MESA, CA 91941  
dwood8@cox.net

TIM HEMIG  
NRG ENERGY, INC.  
1819 ASTON AVENUE, SUITE 105  
CARLSBAD, CA 92008  
tim.hemig@nrgenergy.com

KEITH W. MELVILLE  
SEMPRA ENERGY  
101 ASH STREET  
SAN DIEGO, CA 92101  
kmelville@sempra.com

GREG BASS  
SEMPRA ENERGY SOLUTIONS  
101 ASH STREET. HQ09  
SAN DIEGO, CA 92101-3017  
gbass@semprasolutions.com

DONALD C. LIDDELL, P.C.  
DOUGLASS & LIDDELL  
2928 2ND AVENUE  
SAN DIEGO, CA 92103  
liddell@energyattorney.com

SCOTT J. ANDERS  
UNIVERSITY OF SAN DIEGO SCHOOL OF  
LAW  
5998 ALCALA PARK  
SAN DIEGO, CA 92110  
scottanders@sandiego.edu

WILLIAM E. POWERS  
POWERS ENGINEERING  
4452 PARK BLVD., STE. 209  
SAN DIEGO, CA 92116  
bpowers@powersengineering.com

CENTRAL FILES  
SAN DIEGO GAS & ELECTRIC  
8330 CENTURY PARK COURT, CP31E  
SAN DIEGO, CA 92123  
centralfiles@semprautilities.com

CHUCK MANZUK  
SAN DIEGO GAS AND ELECTRIC COMPANY  
8330 CENTURY PARK CT  
SAN DIEGO, CA 92123  
cmanzuk@semprautilities.com

IRENE M. STILLINGS  
CALIFORNIA CENTER FOR SUSTAINABLE  
ENERGY  
8690 BALBOA AVE., STE. 100  
SAN DIEGO, CA 92123  
irene.stillings@energycenter.org

JOSEPH KLOBERDANZ  
SAN DIEGO GAS & ELECTRIC COMPANY  
8330 CENTURY PARK COURT  
SAN DIEGO, CA 92123  
jkloberdanz@semprautilities.com

DESPINA PAPAPOSTOLOU  
SAN DIEGO GAS AND ELECTRIC COMPANY  
8330 CENTURY PARK COURT-CP32H  
SAN DIEGO, CA 92123-1530  
dpapapostolou@semprautilities.com

JOHN W. LESLIE  
LUCE, FORWARD, HAMILTON & SCRIPPS, LLP  
11988 EL CAMINO REAL, SUITE 200  
SAN DIEGO, CA 92130  
jleslie@luce.com

LAWRENCE KOSTRZEWA  
EDISON MISSION ENERGY  
18101 VON KARMAN AVE., STE 1700  
IRVINE, CA 92612-1046  
lkostrzewa@edisonmission.com

PHILIP HERRINGTON  
EDISON MISSION ENERGY  
18101 VON KARMAN AVENUE, STE 1700  
IRVINE, CA 92612-1046  
pherrington@edisonmission.com

JIM MCARTHUR  
ELK HILLS POWER, LLC  
4026 SKYLINE ROAD  
TUPMAN, CA 93276  
jmcarthur@elkhills.com

BARRY LOVELL  
BERRY PETROLEUM COMPANY  
5201 TRUXTUN AVE., SUITE 300  
BAKERSFIELD, CA 93309  
bjl@bry.com

JANIS C. PEPPER  
CLEAN POWER MARKETS, INC.  
PO BOX 3206  
LOS ALTOS, CA 94024  
pepper@cleanpowermarkets.com

CHRIS KING  
CALIFORNIA CONSUMER EMPOWERMENT  
ONE TWIN DOLPHIN DRIVE  
REDWOOD CITY, CA 94065  
chris@emeter.com

MARC D. JOSEPH  
ADAMS, BROADWELL, JOSEPH & CARDOZO  
601 GATEWAY BLVD., STE. 1000  
SOUTH SAN FRANCISCO, CA 94080  
mdjoseph@adamsbroadwell.com

STEVEN A. LEFTON  
APTECH ENGINEERING SERVICES INC.  
PO BOX 3440  
SUNNYVALE, CA 94089-3440  
slefton@aptecheng.com

DIANE I. FELLMAN  
LAW OFFICE OF DIANE I. FELLMAN  
234 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102  
diane\_fellman@fpl.com

MATTHEW FREEDMAN  
THE UTILITY REFORM NETWORK  
711 VAN NESS AVENUE, SUITE 350  
SAN FRANCISCO, CA 94102  
freedman@turn.org

Noel Obiora  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
nao@cpuc.ca.gov

KAREN TERRANOVA  
ALCANTAR & KAHL, LLP  
120 MONTGOMERY STREET, STE 2200  
SAN FRANCISCO, CA 94104  
filings@a-klaw.com

NORA SHERIFF  
ALCANTAR & KAHL, LLP  
120 MONTGOMERY STREET, SUITE 2200  
SAN FRANCISCO, CA 94104  
nes@a-klaw.com

ROD AOKI  
ALCANTAR & KAHL, LLP  
120 MONTGOMERY STREET, SUITE 2200  
SAN FRANCISCO, CA 94104  
rsa@a-klaw.com

CHRIS ANN DICKERSON, PHD  
FREEMAN, SULLIVAN & CO.  
100 SPEAR ST., 17/F  
SAN FRANCISCO, CA 94105  
dickerson06@fscgroup.com

ED LUCHA  
PACIFIC GAS AND ELECTRIC COMPANY  
77 BEALE STREET, MAIL CODE B9A  
SAN FRANCISCO, CA 94105  
ell5@pge.com

MARC KOLB  
PACIFIC GAS AND ELECTRIC COMPANY  
77 BEALE STREET, B918  
SAN FRANCISCO, CA 94105  
mekd@pge.com

MARK R. HUFFMAN  
PACIFIC GAS AND ELECTRIC COMPANY  
77 BEALE STREET  
SAN FRANCISCO, CA 94105  
mrh2@pge.com

TOM JARMAN  
PACIFIC GAS AND ELECTRIC COMPANY  
77 BEALE STREET, MAIL CODE B9A  
SAN FRANCISCO, CA 94105-1814  
taj8@pge.com

CALIFORNIA ENERGY MARKETS  
517-B POTRERO AVE  
SAN FRANCISCO, CA 94110  
cem@newsdata.com

BRIAN T. CRAGG  
GOODIN MACBRIDE SQUERI RITCHIE & DAY  
505 SANSOME STREET, SUITE 900  
SAN FRANCISCO, CA 94111  
bcragg@goodinmacbride.com

JANINE L. SCANCARELLI  
FOLGER, LEVIN & KAHN, LLP  
275 BATTERY STREET, 23RD FLOOR  
SAN FRANCISCO, CA 94111  
jscancarelli@flk.com

REN ORENS  
ENERGY AND ENVIRONMENTAL ECONOMICS  
353 SACRAMENTO ST., STE 1700  
SAN FRANCISCO, CA 94111  
ren@ethree.com

ROBERT B. GEX  
DAVIS WRIGHT TREMAINE LLP  
505 MONTGOMERY STREET, SUITE 800  
SAN FRANCISCO, CA 94111-6533  
bobgex@dwt.com

STEVEN F. GREENWALD  
DAVIS WRIGHT TREMAINE, LLP  
505 MONTGOMERY STREET, SUITE 800  
SAN FRANCISCO, CA 94111-6533  
stevegreenwald@dwt.com

CHARLES R. MIDDLEKAUFF  
PACIFIC GAS & ELECTRIC COMPANY LAW  
DEPT.  
PO BOX 7442  
SAN FRANCISCO, CA 94120  
ermd@pge.com

LAW DEPARTMENT FILE ROOM  
PACIFIC GAS AND ELECTRIC COMPANY  
PO BOX 7442  
SAN FRANCISCO, CA 94120-7442  
cpuccases@pge.com

MARGARET D. BROWN  
PACIFIC GAS AND ELECTRIC COMPANY  
PO BOX 7442  
SAN FRANCISCO, CA 94120-7442  
mdbk@pge.com

EDWARD C. REMEDIOS  
33 TOLEDO WAY  
SAN FRANCISCO, CA 94123-2108  
ecrem@ix.netcom.com

LYNNE BROWN  
CALIFORNIANS FOR RENEWABLE ENERGY,  
INC.  
24 HARBOR ROAD  
SAN FRANCISCO, CA 94124  
l\_brown369@yahoo.com

MAURICE CAMPBELL  
CALIFORNIANS FOR RENEWABLE ENERGY,  
INC.  
1100 BRUSSELS ST.  
SAN FRANCISCO, CA 94134  
mecsoft@pacbell.net

GRACE LIVINGSTON-NUNLEY  
PACIFIC GAS AND ELECTRIC COMPANY  
PO BOX 770000 MAIL CODE B9A  
SAN FRANCISCO, CA 94177  
gxl2@pge.com

KATHERINE RYZHAYA  
PACIFIC GAS & ELECTRIC COMPANY  
PO BOX 770000  
SAN FRANCISCO, CA 94177  
karp@pge.com

NINA BUBNOVA  
PACIFIC GAS AND ELECTRIC COMPANY  
PO BOX 770000, MAIL CODE B9A  
SAN FRANCISCO, CA 94177  
nbb2@pge.com

VALERIE J. WINN  
PACIFIC GAS AND ELECTRIC COMPANY  
PO BOX 770000, B9A  
SAN FRANCISCO, CA 94177-0001  
vjw3@pge.com

KENNETH E. ABREU  
853 OVERLOOK COURT  
SAN MATEO, CA 94403  
k.abreu@sbcglobal.net

MARK J. SMITH  
FPL ENERGY  
3195 DANVILLE BLVD, STE 201  
ALAMO, CA 94507  
mark\_j\_smith@fpl.com

MARK HARRER  
56 ST. TIMOTHY CT.  
DANVILLE, CA 94526  
mhharrer@sbcglobal.net

ANDREW J. VAN HORN  
VAN HORN CONSULTING  
12 LIND COURT  
ORINDA, CA 94563  
andy.vanhorn@vhcenergy.com

ALEXANDRE B. MAKLER  
CALPINE CORPORATION  
3875 HOPYARD ROAD, SUITE 345  
PLEASANTON, CA 94588  
alexm@calpine.com

AVIS KOWALEWSKI  
CALPINE CORPORATION  
3875 HOPYARD ROAD, SUITE 345  
PLEASANTON, CA 94588  
kowalewskia@calpine.com

PETER W. HANSCHEN  
MORRISON & FOERSTER, LLP  
101 YGNACIO VALLEY ROAD, SUITE 450  
WALNUT CREEK, CA 94596  
phansch@mofo.com

J.A. SAVAGE  
CALIFORNIA ENERGY CIRCUIT  
3006 SHEFFIELD AVE.  
OAKLAND, CA 94602  
editorial@californiaenergycircuit.net

MRW & ASSOCIATES, INC.  
1814 FRANKLIN STREET, SUITE 720  
OAKLAND, CA 94612  
mrw@mrwassoc.com

DAVID HOWARTH  
MRW & ASSOCIATES, INC.  
1814 FRANKLIN STREET, SUITE 720  
OAKLAND, CA 94612  
mrw@mrwassoc.com

WILLIAM A. MONSEN  
MRW & ASSOCIATES, INC.  
1814 FRANKLIN STREET, SUITE 720  
OAKLAND, CA 94612  
mrw@mrwassoc.com

REED V. SCHMIDT  
BARTLE WELLS ASSOCIATES  
1889 ALCATRAZ AVENUE  
BERKELEY, CA 94703-2714  
rschmidt@bartlewells.com

JANICE LIN  
STRATEGEN CONSULTING LLC  
146 VICENTE ROAD  
BERKELEY, CA 94705  
janice@strategenconsulting.com

CHRISTOPHER J. MAYER  
MODESTO IRRIGATION DISTRICT  
PO BOX 4060  
MODESTO, CA 95352-4060  
chrism@mid.org

ROBERT SARVEY  
501 W. GRANTLINE RD  
TRACY, CA 95376  
sarveybob@aol.com

JOHN C. GABRIELLI  
GABRIELLI LAW OFFICE  
430 D STREET  
DAVIS, CA 95616  
gabrielilaw@sbcglobal.net

RICHARD MCCANN  
M.CUBED  
2655 PORTAGE BAY ROAD, SUITE 3  
DAVIS, CA 95616  
rmccann@umich.edu

SHAWN SMALLWOOD, PH.D.  
3108 FINCH ST.  
DAVIS, CA 95616-0176  
puma@davis.com

DAVID MORSE  
1411 W. COVELL BLVD., SUITE 106-292  
DAVIS, CA 95616-5934  
demorse@omsoft.com

BRIAN THEAKER  
WILLIAMS POWER COMPANY  
3161 KEN DEREK LANE  
PLACERVILLE, CA 95667  
brian.theaker@williams.com

STEVEN A. GREENBERG  
DISTRIBUTED ENERGY STRATEGIES  
4100 ORCHARD CANYON LANE  
VACAVILLE, CA 95688  
steveng@destrategies.com

DOUG DAVIE  
DAVIE CONSULTING, LLC  
3390 BEATTY DRIVE  
EL DORADO HILLS, CA 95762  
dougdpucmail@yahoo.com

DAVID REYNOLDS  
ASPEN SYSTEMS CORPORATION  
5802 BALFOR ROAD  
ROCKLIN, CA 95765  
dreynolds@aspensys.com

DAN L. CARROLL  
DOWNEY BRAND, LLP  
555 CAPITOL MALL, 10TH FLOOR  
SACRAMENTO, CA 95814  
dcarroll@downeybrand.com

EDWARD J TIEDEMANN  
KRONICK MOSKOVITZ TIEDEMANN AND  
GIRARD  
400 CAPITOL MALL  
SACRAMENTO, CA 95814  
etiedemann@kmtg.com

KEVIN WOODRUFF  
WOODRUFF EXPERT SERVICES, INC.  
1100 K STREET, SUITE 204  
SACRAMENTO, CA 95814  
kdw@woodruff-expert-services.com

WILLIAM W. WESTERFIELD III  
ELLISON, SCHNEIDER & HARRIS LLP  
2015 H STREET  
SACRAMENTO, CA 95814  
www@eslawfirm.com

VIKKI WOOD  
SACRAMENTO MUNICIPAL UTILITY DISTRICT  
6301 S STREET, MS A204  
SACRAMENTO, CA 95817-1899  
vwood@smud.org

RICHARD LAUCKHART  
HENWOOD ENERGY SERVICES, INC.  
2379 GATEWAY OAKS DRIVE, SUITE 200  
SACRAMENTO, CA 95833  
rlauckhart@henwoodenergy.com

E. JESUS ARREDONDO  
NRG ENERGY, INC.  
3741 GRESHAM LANE  
SACRAMENTO, CA 95835  
jesus.arredondo@nrgenergy.com

KAREN LINDH  
LINDH & ASSOCIATES  
7909 WALERGA ROAD, NO. 112, PMB 119  
ANTELOPE, CA 95843  
karen@klindh.com

PATRICK HOLLEY  
COVANTA ENERGY CORPORATION  
2829 CHILDRESS DR.  
ANDERSON, CA 96007-3563  
pholley@covantaenergy.com

ANNE FALCON  
EES CONSULTING, INC.  
570 KIRKLAND AVE  
KIRLAND, WA 98033  
rfp@eesconsulting.com

DONALD SCHOENBECK  
RCS, INC.  
900 WASHINGTON STREET, SUITE 780  
VANCOUVER, WA 98660  
dws@r-c-s-inc.com

Peter Lai  
CALIF PUBLIC UTILITIES COMMISSION  
320 WEST 4TH STREET SUITE 500  
LOS ANGELES, CA 90013  
ppl@cpuc.ca.gov

Amy C. Yip-Kikugawa  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
ayk@cpuc.ca.gov

Carol A. Brown  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
cab@cpuc.ca.gov

Charlyn A. Hook  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
chh@cpuc.ca.gov

Donna J. Hines  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
djh@cpuc.ca.gov

Jerry Oh  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
joh@cpuc.ca.gov

Julie Halligan  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
jmh@cpuc.ca.gov

Matthew Deal  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
mjd@cpuc.ca.gov

Merideth Sterkel  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
mts@cpuc.ca.gov

Mikhail Haramati  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
mkh@cpuc.ca.gov

Robert Kinosian  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
gig@cpuc.ca.gov

Robert L. Strauss  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
rls@cpuc.ca.gov

Sepideh Khosrowjah  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
skh@cpuc.ca.gov

Shannon Eddy  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
sed@cpuc.ca.gov

Steve Linsey  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
car@cpuc.ca.gov

Sudheer Gokhale  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
skg@cpuc.ca.gov

Susannah Churchill  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
sc1@cpuc.ca.gov

Terrie D. Prosper  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
tdp@cpuc.ca.gov

Theresa Cho  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
tcx@cpuc.ca.gov

Thomas Roberts  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
tcr@cpuc.ca.gov

Traci Bone  
CALIF PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
tbo@cpuc.ca.gov

SNULLER PRICE  
ENERGY AND ENVIRONMENTAL ECONOMICS  
101 MONTGOMERY, SUITE 1600  
SAN FRANCISCO, CA 94104  
snuller@ethree.com

ANDREW ULMER  
CALIFORNIA DEPARTMENT OF WATER  
RESOURCES  
1416 NINTH STREET  
SACRAMENTO, CA 95814  
aulmer@water.ca.gov

BRADLEY MEISTER  
CALIFORNIA ENERGY COMMISSION  
1516 9TH STREET, MS-26  
SACRAMENTO, CA 95814  
bmeister@energy.state.ca.us

Don Schultz  
CALIF PUBLIC UTILITIES COMMISSION  
770 L STREET, SUITE 1050  
SACRAMENTO, CA 95814  
dks@cpuc.ca.gov

KRIS G. CHISHOLM  
CALIFORNIA ELECTRICITY OVERSIGHT  
BOARD  
770 L STREET, SUITE 1250  
SACRAMENTO, CA 95814  
kris.chisholm@eob.ca.gov

MICHAEL JASKE  
CALIFORNIA ENERGY COMMISSION  
1516 9TH STREET, MS-500  
SACRAMENTO, CA 95814  
mjaske@energy.state.ca.us

Wade McCartney  
CALIF PUBLIC UTILITIES COMMISSION  
770 L STREET, SUITE 1050  
SACRAMENTO, CA 95814  
wsn@cpuc.ca.gov

MARY ANN MILLER  
CALIFORNIA ENERGY COMMISSION  
1516 9TH STREET, MS 20  
SACRAMENTO, CA 96814-5512  
mmiller@energy.state.ca.us

RON WETHERALL  
CALIFORNIA ENERGY COMMISSION  
1516 9TH STREET MS 20  
SACRAMENTO, CA 96814-5512  
rwethera@energy.state.ca.us

ALAN NOGEE  
UNION OF CONCERNED SCIENTISTS  
2 BRATTLE SQUARE  
CAMBRIDGE, MA 02238  
anogee@ucsusa.org